**EENG 860-Assignment 5-G5**

**Due date: April 7, 2023**

Consider the attached Car dataset from the UCI machine learning repository:

https://archive.ics.uci.edu/ml/datasets/Car+Evaluation. The Car Evaluation Database contains examples with the structural information directly relates CAR to the six input attributes:

buying: buying price  
maint: price of the maintenance

doors: number of doors  
persons: capacity in terms of persons to carry  
lug\_boot: the size of luggage boot  
safety: estimated safety of the car

Attribute Information:

Class Values: unacc, acc, good, vgood

**Attributes:**  
buying: vhigh, high, med, low.  
maint: vhigh, high, med, low.  
doors: 2, 3, 4, 5more.  
persons: 2, 4, more.  
lug\_boot: small, med, big.  
safety: low, med, high.

Use 5-fold cross validation to evaluate the classification performance of a SVM classifier. Provide the confusion matrix, sensitivity, specificity, total accuracy, F1-score, Roc curve, and area under curve.